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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/715,576	11/17/2000	Hua-Shuang Kong	5000.89A	5716

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EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/715,576

Applicant(s)

KONG ET AL.

Examiner

Ram N Kackar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 21-32 and 42-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 21-32 and 42-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-2, 4-6, 10 and 42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6217662. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are anticipated by the US Patent 6217662 to the same inventors, Kong et al. Kong et al disclose two cylindrical type susceptor portions (Claim 1) of the same material (Claims 3 and 4) being thermally responsive to electromagnetic radiation (Claim 2), having pockets on the first susceptor to receive substrates (Claim 1) and with a separation large enough for gas to flow and short enough to heat each other (Claim 1).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-2, 4-5, 7, 10, 21-22, 24, 26, 29-31 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohmura et al (US 4848272). Ohmura et al disclose a reactor vessel of quartz (Fig 1-1) which would make it transparent to electromagnetic radiation, having a gas supply system (10), induction coils as a source of electromagnetic radiation (13,14) being barrel type (Fig 1), thermally responsive (Col 4 line 15-38) first susceptor portion (2), thermally responsive (Col 4 line 15-38) second susceptor portion (5), spaced optimally to allow flow of reactive gases as well as allow them to heat each other (Fig 1), and plurality of pocket to receive substrates (Fig 1).

Regarding claims 7 and 26, as Ohmura has not disclosed that they be of the same material, they could be of a different material.

5. Claims 1-5, 7, 10, 21-22, 24, 26-27, 29, 31-32 and 42-43, 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin et al (US 4579080). Martin et al disclose a reactor vessel of quartz (fig 9-61) enclosed inside another cylinder of a dielectric material to make it transparent to electromagnetic radiation (Abstract), having a gas supply system (69) induction coils as a source of electromagnetic radiation (75) and a barrel type (Fig 9) or horizontal type (Fig 4 and Col 7 line 67), thermally responsive first susceptor portion (64 and Col 8 line 3-10), made of graphite coated with silicon carbide (Col 7 line 60), second susceptor portion as the metal coated cylinder around the first susceptor (Fig 9-74 and 61) spaced optimally to allow flow

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of reactive gases as well as allow them to heat each other (Col 11 line 24-28 and Col 12 line 52-63 ), first susceptor having plurality of pockets to receive substrates (Fig 9) .

Regarding claims 7 and 26, as Martin et al have not disclosed that they are of the same material, they could be of a different material.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6, 25, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmura et al (US 4848272) or Martin et al (US 4579080) in view of Mannou Masaya et al (JP 62190834). Ohmura or Martin et al do not expressly disclose the material of the two susceptor to be the same. Masaya et al disclose another epitaxial apparatus having two inductively heated horizontal susceptors of carbon (Abstract and Fig 2). There fore it would have been obvious to one of ordinary skill in the art at the time invention was made to have same material for the two susceptors so as to have same heating characteristics.

8. Claims 23, 28 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmura et al (US 4848272) or Martin et al (US 4579080) in view of MacLeish et al (US 5653808). Ohmura or Martin et al do not disclose the reaction vessel to be made of stainless steel or the second susceptor made of graphite coated by silicon carbide. MacLeish discloses an epitaxial apparatus made of stainless steel (Fig 1-14 and Col 3 line 66) and second susceptor made of graphite coated by silicon carbide (Fig 2-32 and Col 4 line 21-25). There fore it would

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have been obvious to one of ordinary skill in the art at the time invention was made to have the reaction vessel made of stainless steel for its mechanical strength and coating of silicon carbide on graphite to prevent migration of carbon from susceptor to substrate.

9. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 4579080) in view of Harris et al (US 3436255). Martin et al do not expressly disclose plurality of pockets on their horizontal susceptor. Harris et al disclose a very common way of holding substrates in pockets for processing. There fore it would have been obvious to one of ordinary skill in the art at the time invention was made to have recess or pockets in the susceptor to hold substrates for processing.

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

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RK

September 18, 2002

  
GREGORY MILLS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700